

Excellence in Aging Research: NIA & NIH

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**Senate Special Committee on Aging: Recognition of
Excellence in Aging Research**

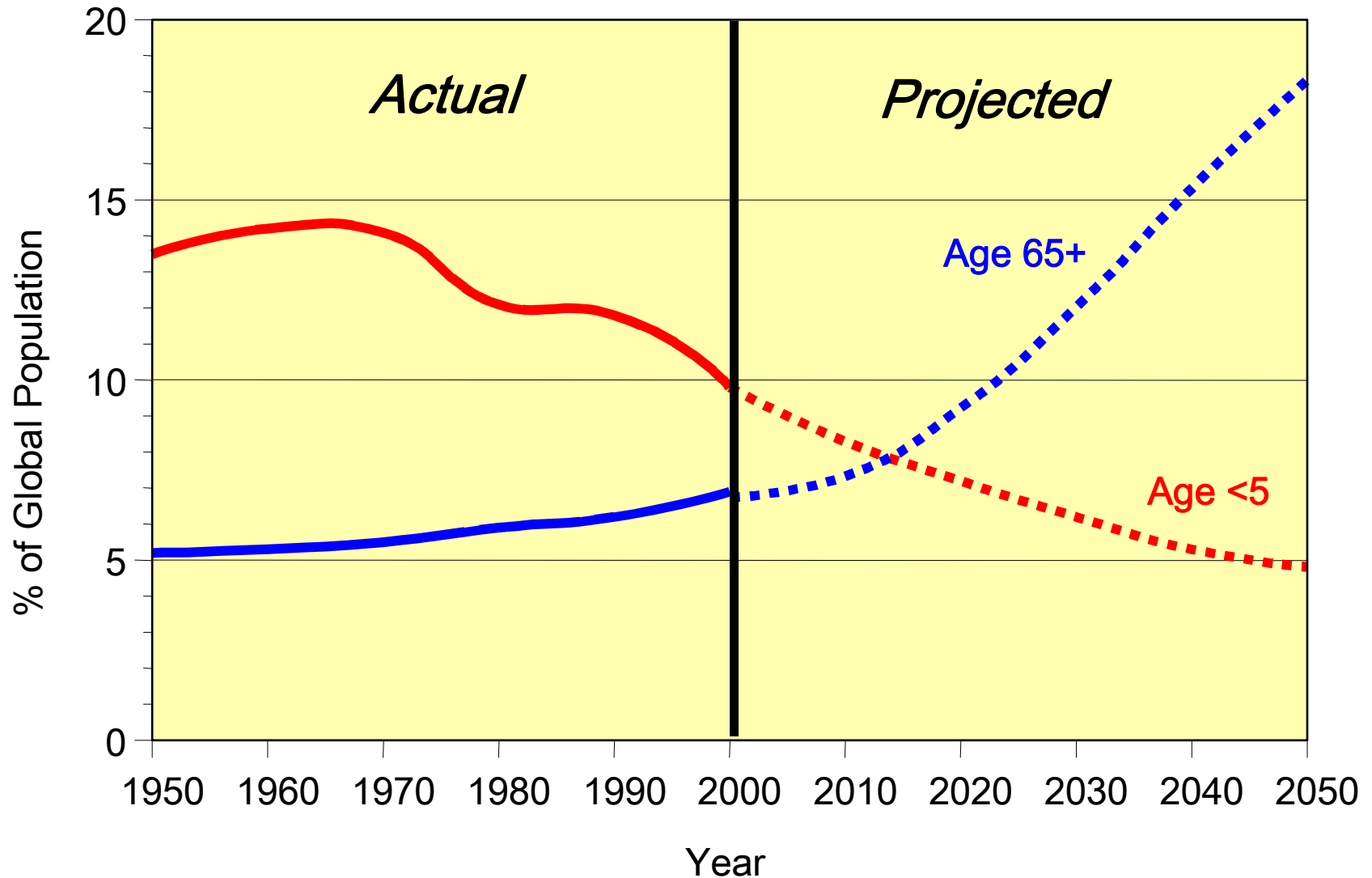
GSA, November 2008, National Harbor, Md.



Potential Indicators of for Excellence

- Judged value of the research for population aging
- Value of research to Fed Agencies
- Scientific breakthrough
- Scientific productivity – articles, citations
- Impact on wellbeing of the older population
- Cost savings – immediate and delayed
- Stimulation of Economic Growth and Activity

United Nations Projected Percentages of Global Population



Source: World Population Prospects: The 1996 Revision, Annex 2 (low-variant projection). UN Population Division.



NATIONAL INSTITUTE ON AGING
NATIONAL INSTITUTES OF HEALTH
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

U.S. DEPARTMENT OF STATE

Why Population Aging Matters

A Global Perspective

National Harbor, Md.



70+ submissions from NIH (including NIA) fall into 8 Categories

- 1. Understanding the Biological Processes of Aging**
- 2. Understanding the Social and Behavioral Processes of Aging**
- 3. Understanding, Preventing, Diagnosing, and Treating Alzheimer's Disease**
- 4. Understanding, Diagnosing, and Treating Other Diseases and Conditions that Increase with Age**
- 5. Preventing the Diseases and Conditions that Increase with Age**
- 6. Developing Interventions to Promote Health and Increase Independence for Older Adults**
- 7. Improving the Quality of Health Care for Older Adults**
- 8. Health Communication for Older Adults**

Excellence in Aging –Six examples that involve substantial collaboration

- The Health & Retirement Study -- global partners –NIA, SSA
- Roybal Centers for translation and application – driving and UFOV --three state MVAs plus insurance industry
- Diabetes Control and Prevention and the need for a science of behavior change – NIDDK, NIA, NICHD, NIA, NEI, NCMHD, ORWH, OBSSR, NHLBI
- REACH – helping caregivers – NIA, NINR & VA &AoA collab.
- ADNI-Alzheimer's Disease's Neuroimaging Initiative – NIH, NBIB FDA, private industry, Alzheimer's Assoc.
- Roadmap Geroscience Consortium -NIA, NINDS, NIEHS, NIGMS



GROWING OLDER IN AMERICA

THE HEALTH & RETIREMENT STUDY

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

The Health and Retirement Study (HRS)

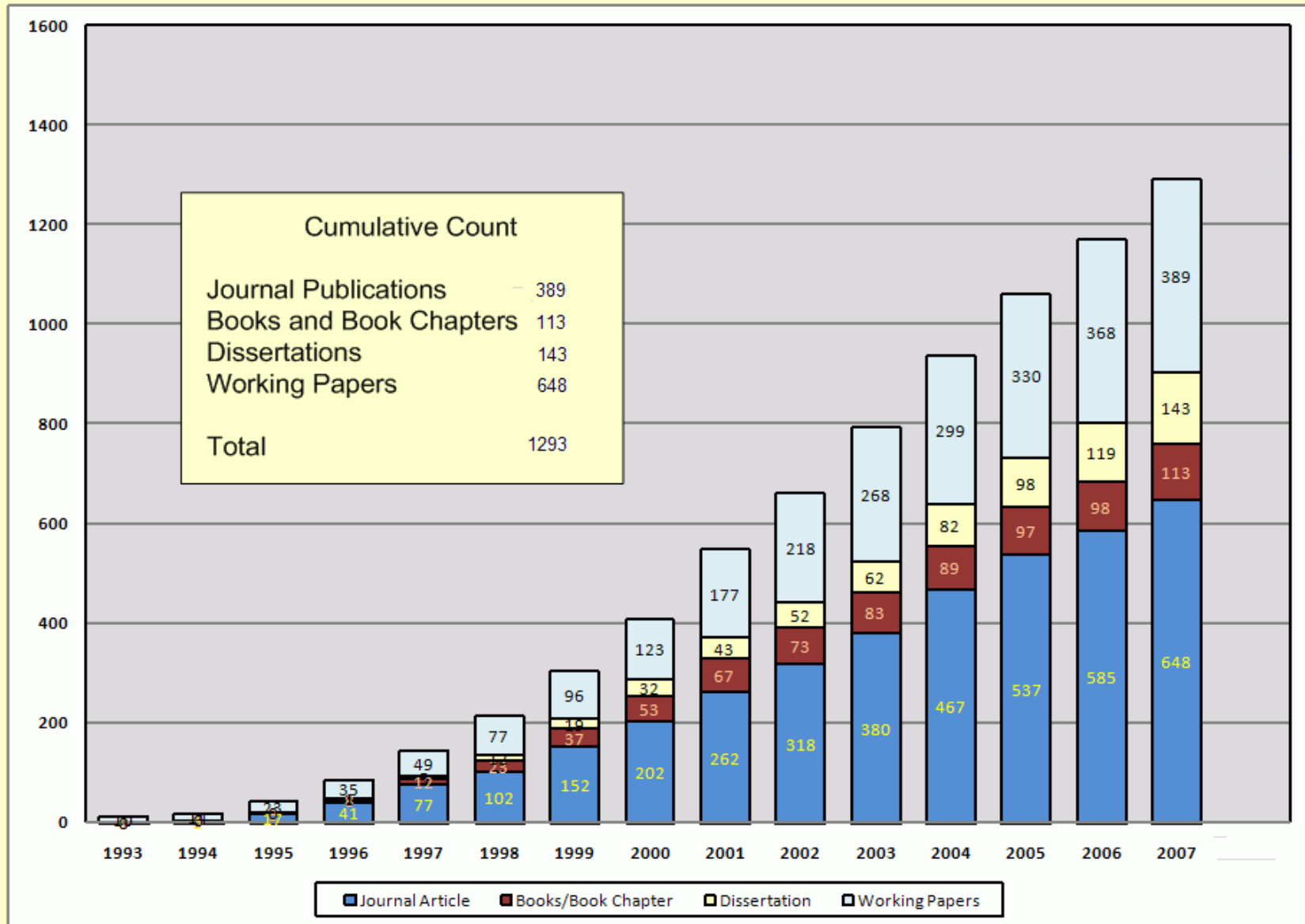
Sponsored by the NIA under a cooperative agreement with the University of Michigan, the HRS follows more than 20,000 men and women over 50. Launched in 1992, this multidisciplinary, longitudinal study has become known as the Nation's leading resource for data on retirement and the joint health and economic status of older Americans. **SSA is a significant co-funder and data user.**

Includes measures on physical and mental health, insurance coverage, financial situations, family support systems, work status, retirement planning, Medicare Part D, plus linked SSA, Medicare and death records. Experimental modules, cognition, ADAMs, blood, DNA, etc.



Scientific Productivity of HRS

HRS Publications, Cumulative Count by Type

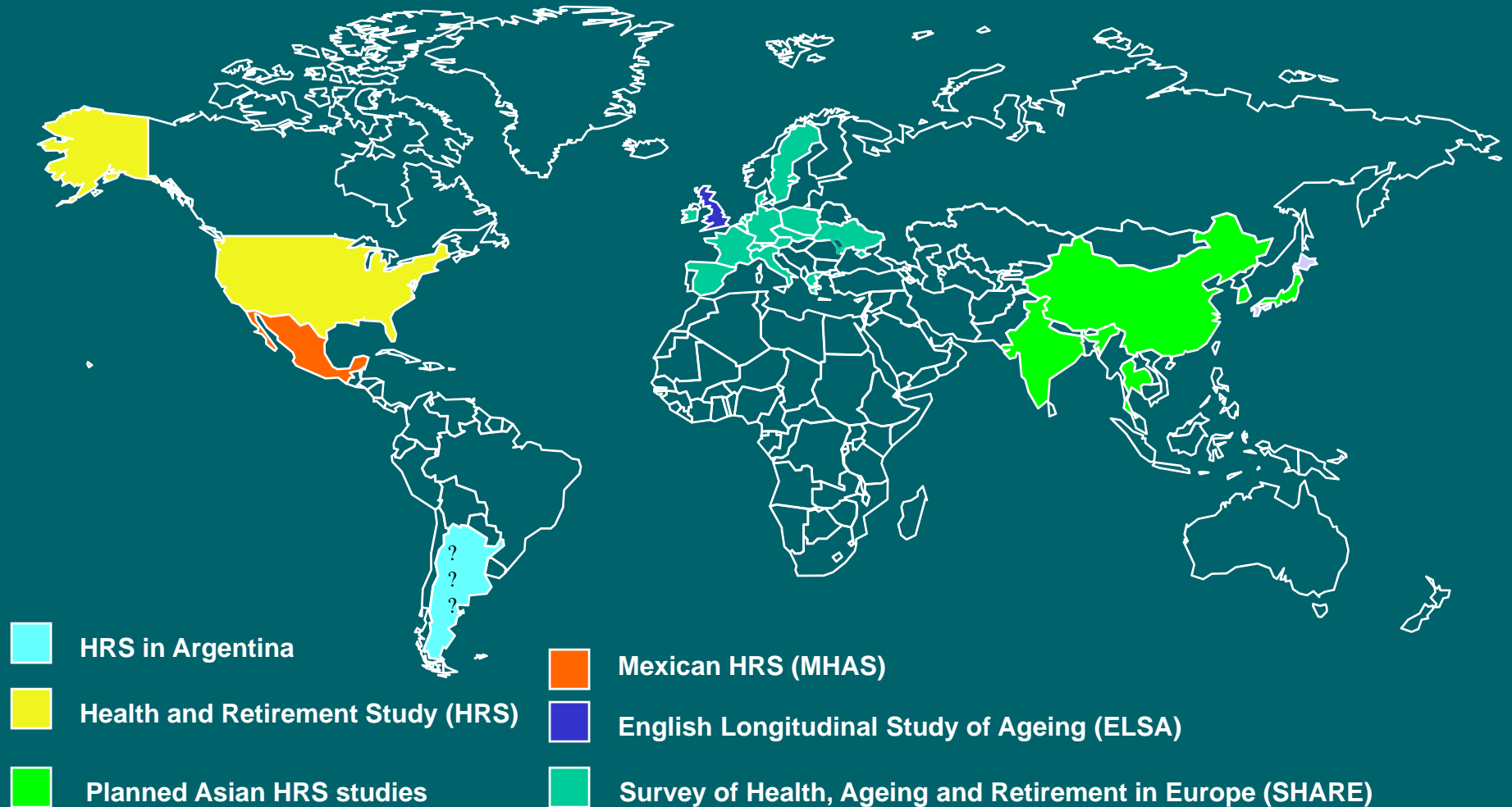


HRS Users

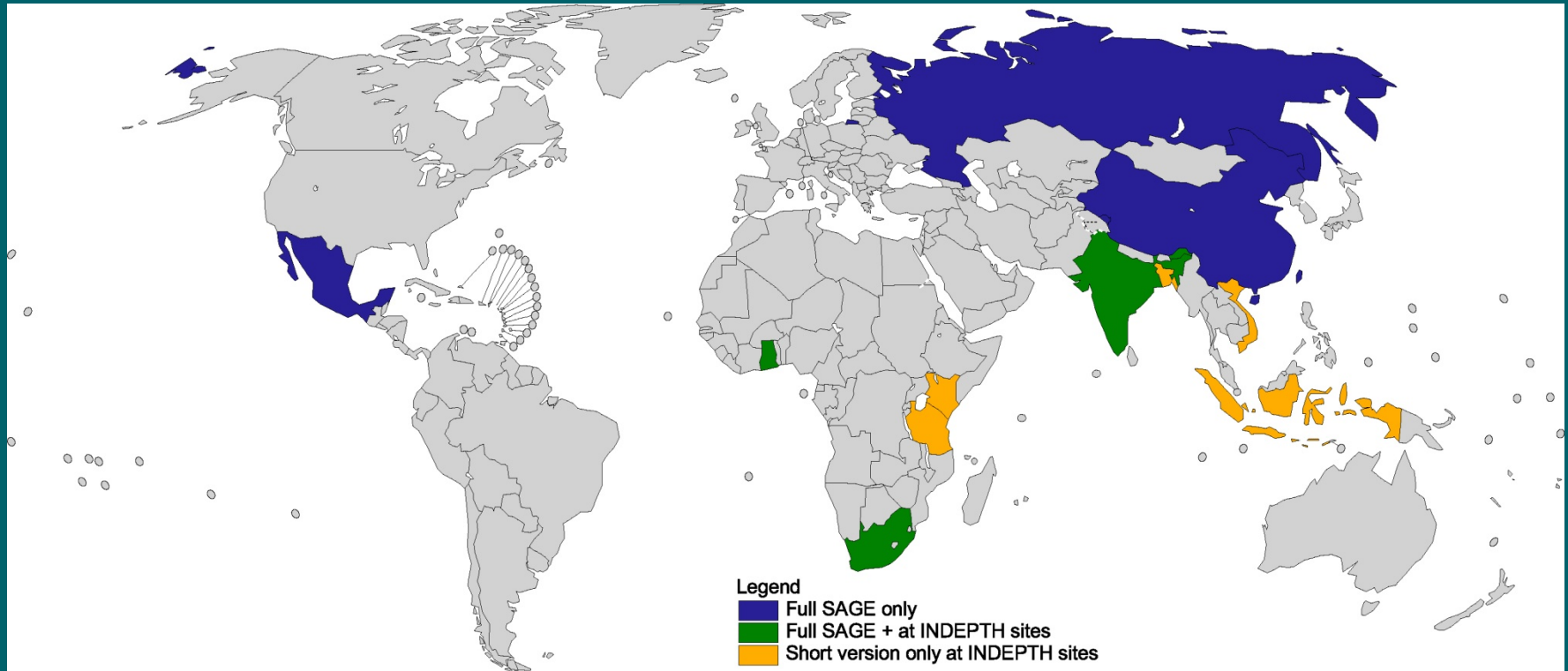
- Since the study began, more than 7,000 people have registered to use the data.
 - In addition to use by researchers at academic and policy institutes such as RAND, NBER and the other Demography Centers, researchers at governmental agencies such as the **Census Bureau**, the **National Center for Health Statistics**, the **Social Security Administration**, **Treasury**, **CMS**, **CBO**, etc. make regular use of the HRS data



HRS Studies' Global Coverage

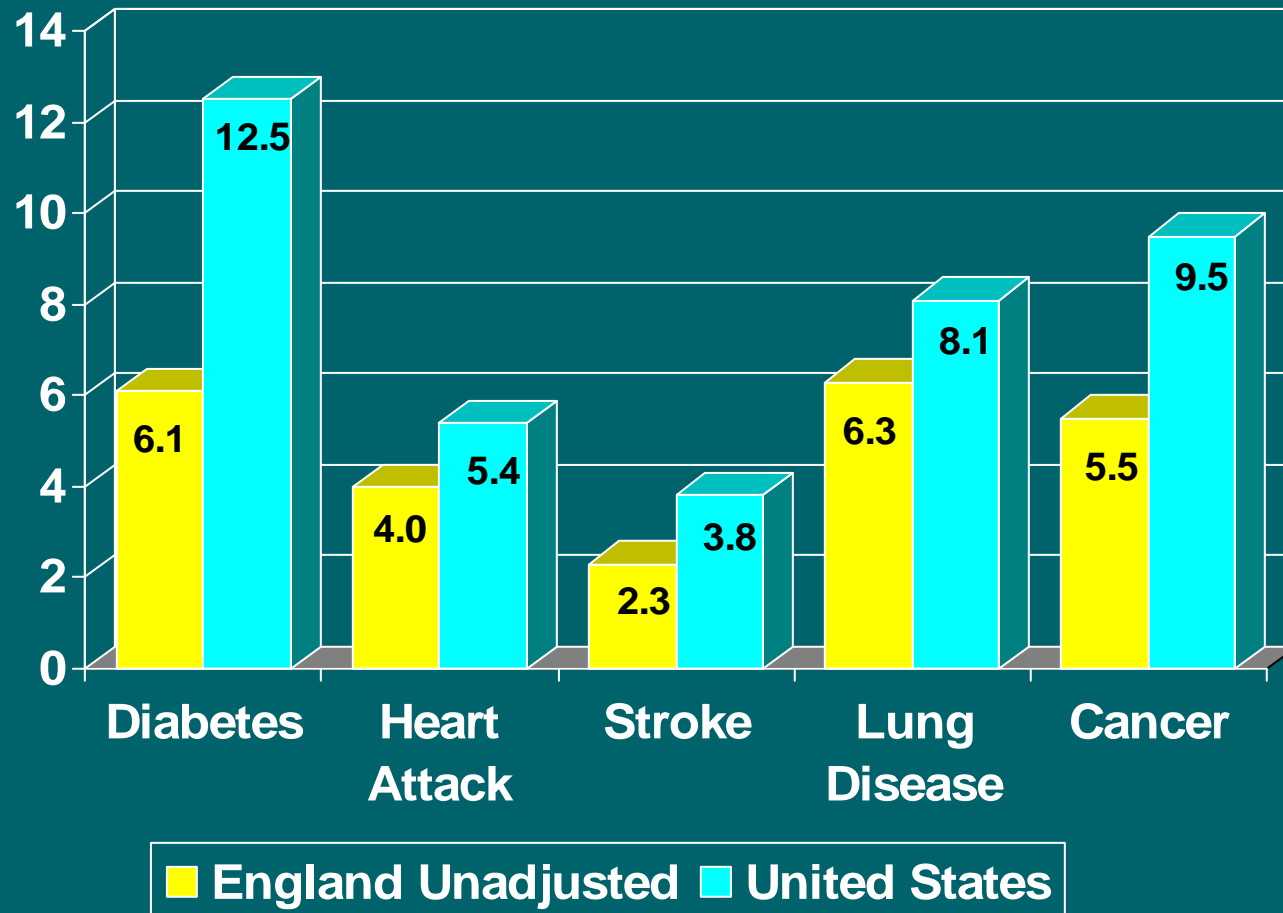


SAGE and INDEPTH at WHO



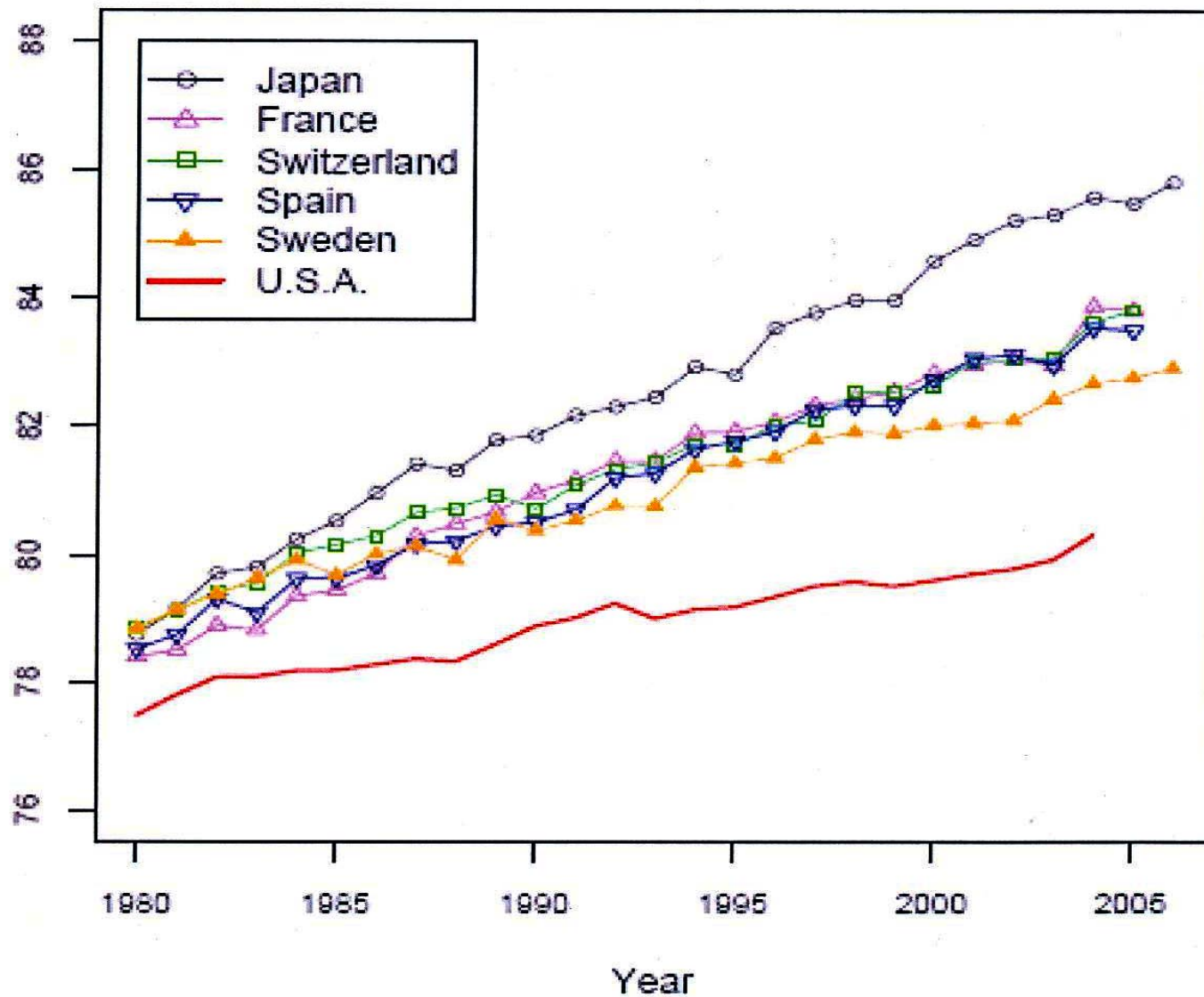
- China
- India
- Russia
- Mexico
- South Africa
- Ghana
- Kenya
- Tanzania
- Bangladesh
- Viet Nam
- Indonesia

Disease Prevalence in England and the USA (whites ages 55-64) using HRS and ELSA



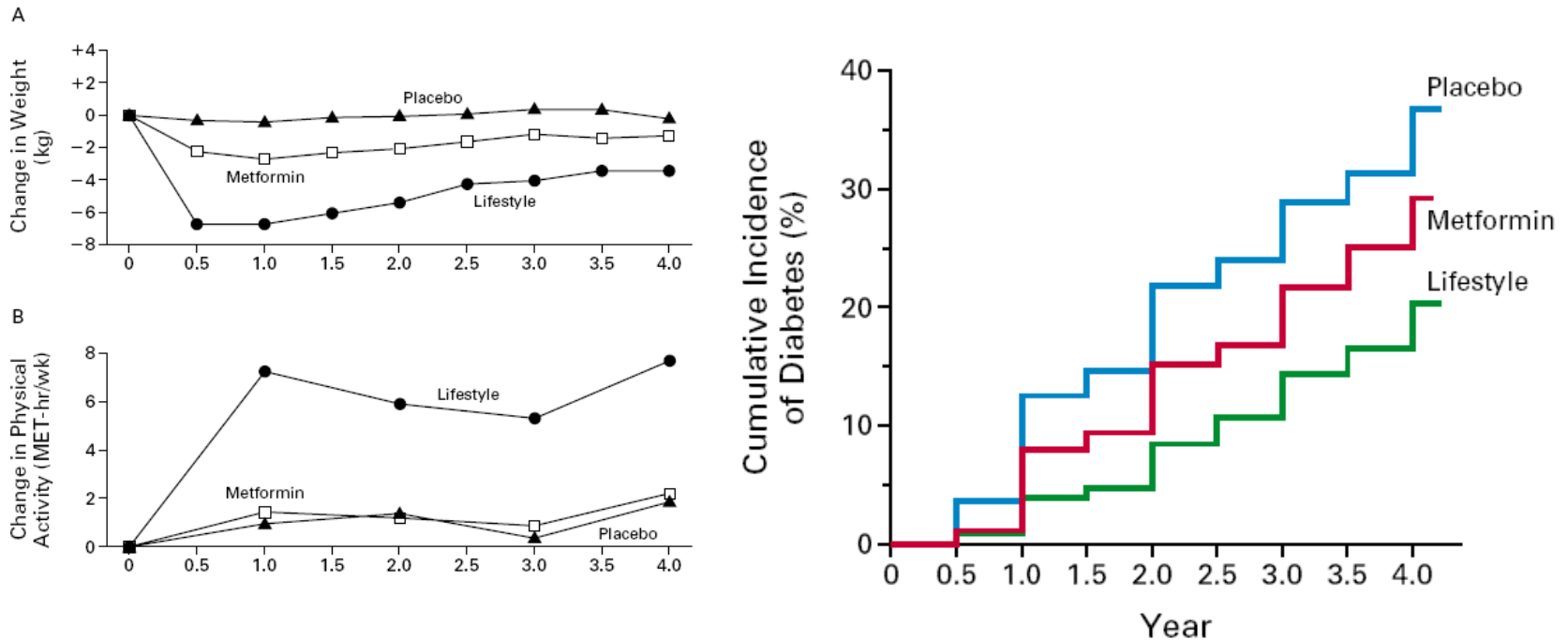
Source: Banks, Marmot, Oldfield, and Smith, *JAMA* 2006.

United States Lagging in Life Expectancy Females, 1980-2005



Diabetes Prevention Program

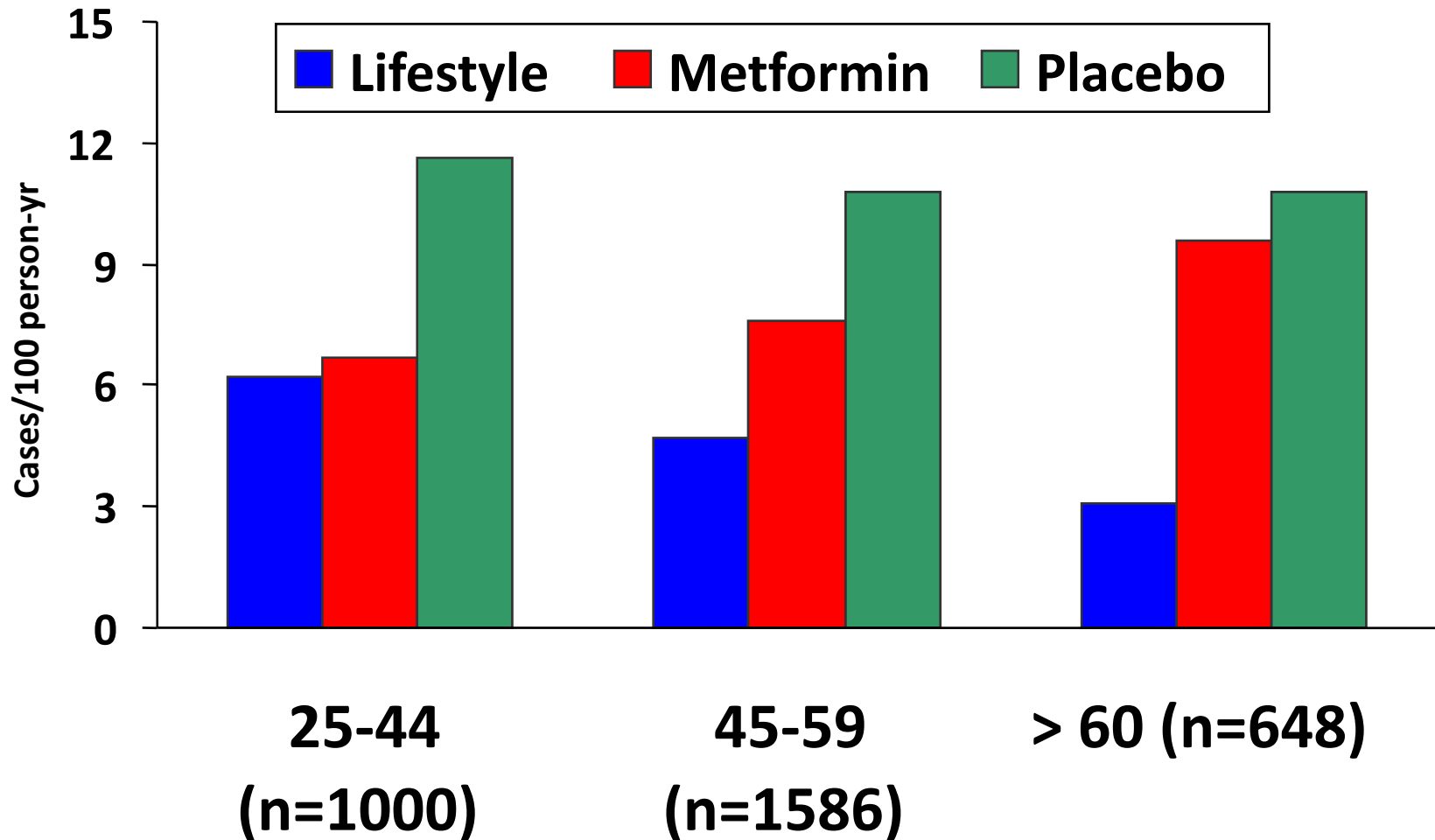
-Behavior Change is Powerful



A 7% weight reduction and 2.5 hour per week activity increase led to a 58% reduction in the cumulative incidence of Type 2 diabetes in older insulin-resistant individuals (**NIDDK, NIA NICHD, NIA, NEI, NCMHD, ORWH, OBSSR, NHLBI**).

Lifestyle Influence on Diabetes Incidence

Lifestyle better than pill for the 45+



Science of Behavior Change: An NIH Roadmap Development Effort--17 Institutes and Centers

**FIC, NCCAM, NCI, NHGRI,
NHLBI, NIA, NIAAA, NIAID,
NIAMS, NICHD, NIDA, NIDCR,
NIDDK, NIGMS, NIMH, NINDS, NINR,
OBSSR**

**Objective: develop a unified Science of Behavior Change
through a trans-NIH initiative and increase the efficacy
and cost effectiveness of behavioral interventions.**

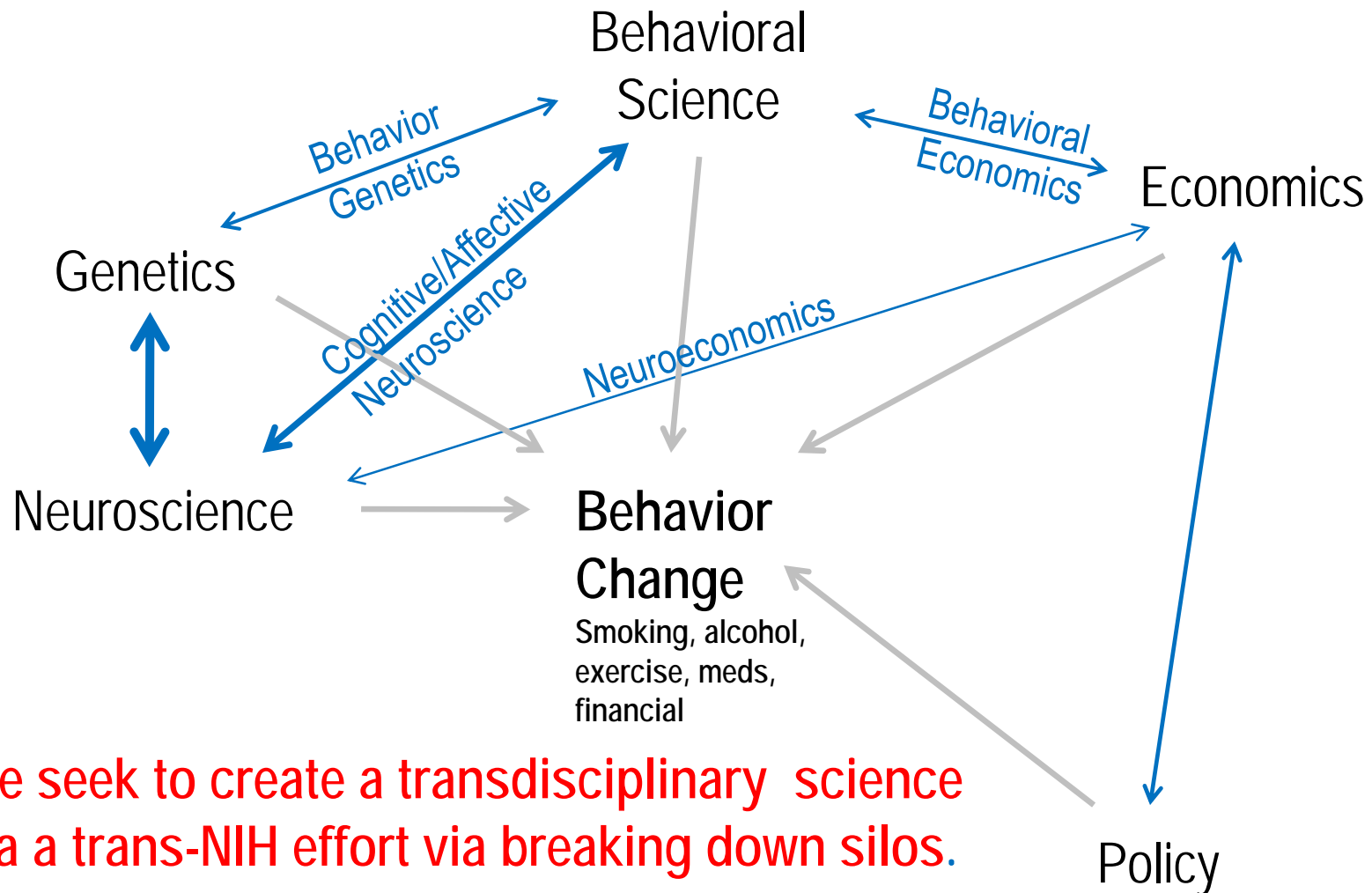


Science of Behavior Change

- This Roadmap Development effort seeks to unify the science and work to identify the general mechanisms underlying behavior change
- Help people actually initiate and maintain the changes they want to make



Emergence of Transdisciplinary Science



We seek to create a transdisciplinary science via a trans-NIH effort via breaking down silos.



Roybal Centers for Translation Research

- **Research infrastructure to enhance the health and wellbeing of elderly by translating basic research into new products & technologies (and stimulate new basic science)**
- **Centers include e.g.**
 - **Developing better measures of wellbeing**
 - **Internet technology for conducting surveys**
 - **Model Medicare expenditure growth**
 - **Aging and Decision making**
 - **Aging and Mobility**
 - **etc.**

NIA-Funded Research on Identification of High-Risk Older Drivers

“Useful Field of View” is a good predictor of accident risk



Ball K.K., Roenker D, Wadley V.G., Edwards J.D., et al. (2006). Can high-risk older drivers be identified through performance-based measures in a department of motor vehicle setting? *Journal of the American Geriatrics Society*. 54:77-84.

UFOV - useful field of view

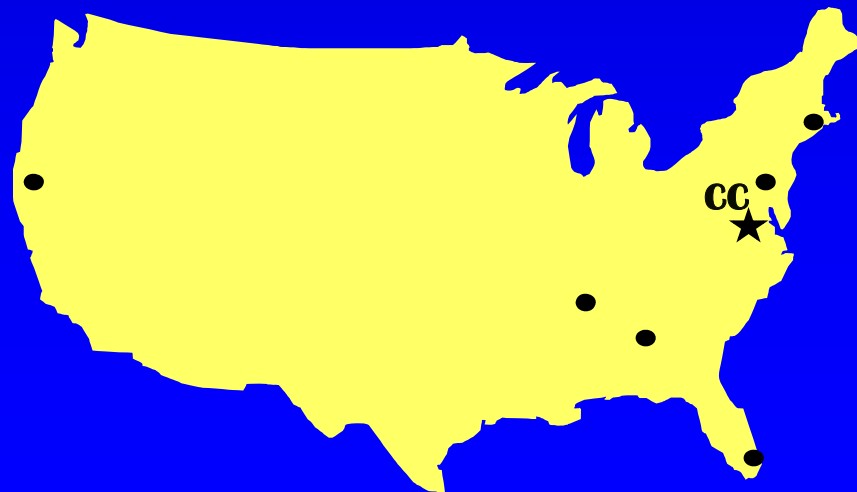
- Drivers who showed a 40% + UFOV impairment 2X+ likely to be involved in a crash within 3 years of testing
- Drivers identify a particular object amid visual distractions on the screen. UFOV defined as the area in which rapidly presented visual information can be used
- Used in California, Maryland, and Florida motor vehicle departments
- State Farm Auto Insurance Company offers insurance discounts for those who take the UFOV test and "qualify" for a discount
- UFOV can be trained



- Identify and test social and behavioral interventions to strengthen family members' capacities to care for individuals with AD

6 Intervention Sites

- Birmingham
- Boston (REACH I)
- Memphis
- Miami
- Palo Alto
- Philadelphia



Design

- 6 month, randomized clinical trial
- Intervention provides education, support, and skill building to help caregivers manage patient behaviors and their own stress.

Findings

- Improvement in quality of life:
- Lower prevalence of clinical depression
- One additional hour of free time per day
- No statistical difference in NH placement

“If these interventions were drugs, it is hard to believe they would not be on the fast track to approval.”

Covinsky & Johnston, Ann Int Med, 2006, 145, 70-781

Translating research findings into practice

- **REACH-VA:** in 17 VA sites around the U.S.A.
- **AoA:** Alzheimer's Disease Demonstration Grants to States – Florida, Georgia, and North Carolina state-wide REACH Program

AD Neuroimaging Initiative (ADNI)

- To identify neuroimaging and other biomarkers to test and monitor effectiveness of new treatments on mild cognitive impairment and AD
- Study recruited 800 volunteers (200 cognitively normal, 400 MCI, 200 early AD) at 58 sites in U.S., Canada
- MRI, PET, biomarker, clinical data base, all are available to qualified individuals with 72 hours of request
- Recruitment campaign -Maya Angelou spokesperson

imagine stopping the progression of Alzheimer's

I have a dear friend suffering from Alzheimer's. But I can imagine... and hope for... a world without this terrible disease.

Maya Angelou
author, poet, educator

You can help make a difference. A major brain imaging study led by the National Institutes of Health may help us learn how to stop the progression of Alzheimer's.

Please consider joining the study if you are between 55 and 90 and:

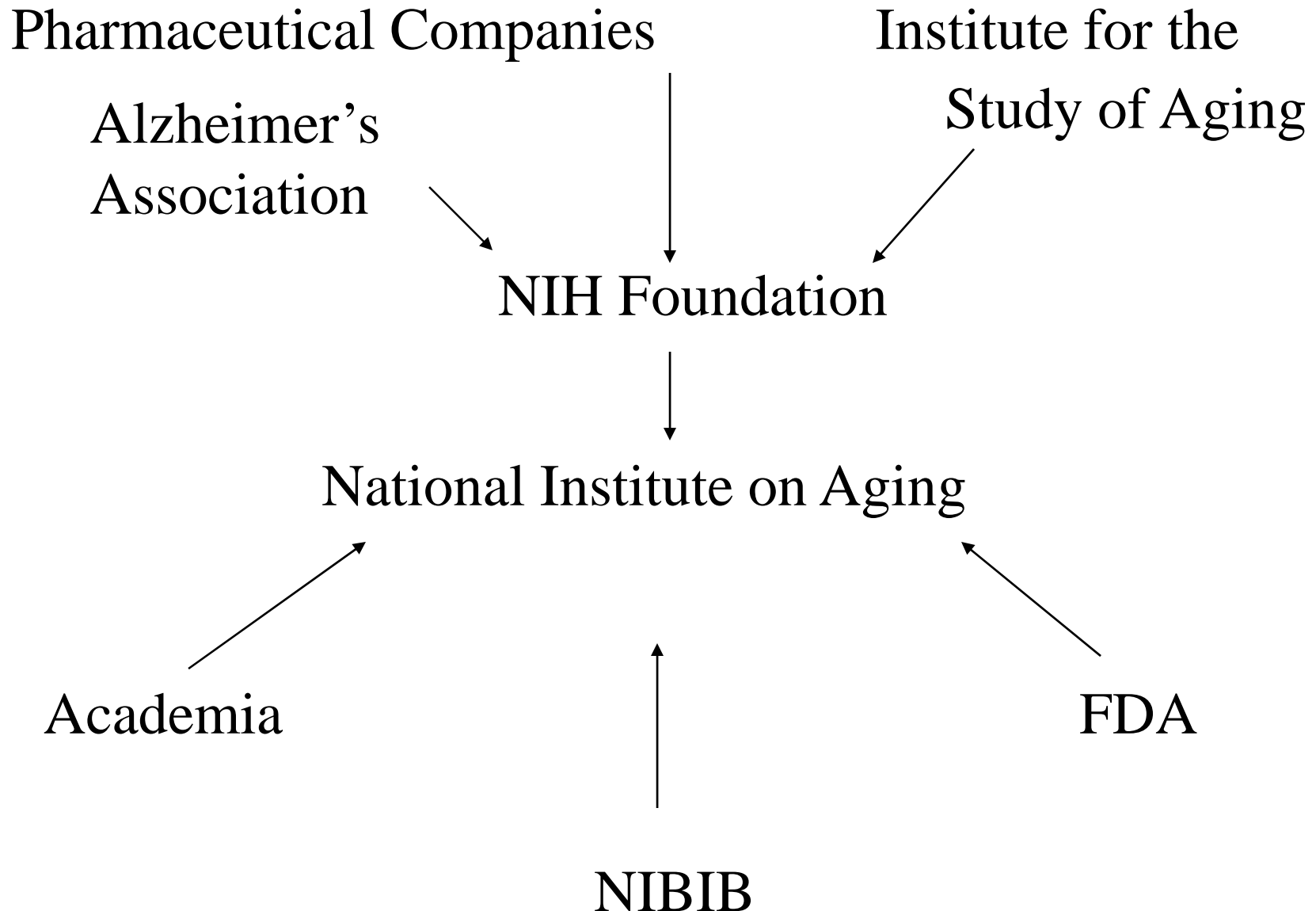
- are in good general health with no memory problems, OR
- are in good general health but have memory problems or concerns, OR
- have a diagnosis of early Alzheimer's disease.

For more information, call 1-800-438-4380 or visit www.alzheimers.org/imagine.

imagine
stopping the progression of Alzheimer's disease
ALZHEIMER'S DISEASE NEUROIMAGING STUDY

The poster features a portrait of Maya Angelou on the right side. She is an African American woman with short, dark hair, wearing a patterned jacket over a red top, and a gold necklace and earrings. She is looking directly at the camera with a slight smile.

AD Neuroimaging Initiative Partners



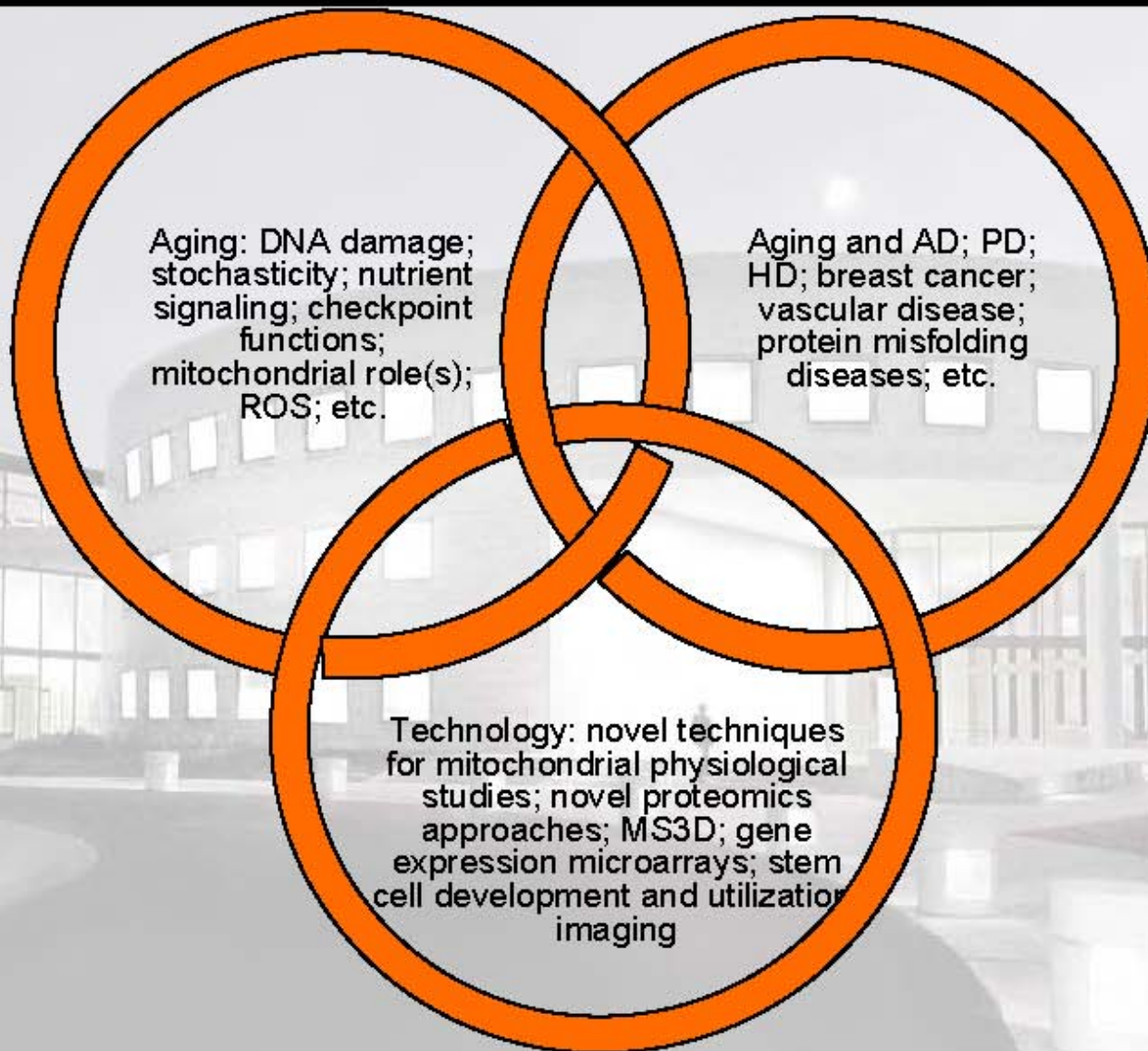
NIH Roadmap for Medical Research: Geroscience Interdisciplinary Research Consortium

- Established nine consortia for interdisciplinary research, each made up of multiple research projects as well as training and education.
- Interdisciplinary research integrates approaches from 15+ disciplines to create new ways to solve complex problems that are refractory to traditional research approaches e.g. distinguish aging and disease
- Brought together scientists from different disciplines to develop new approaches that will uncover the fundamental mechanisms of aging to better understand what goes awry in age-related diseases and disorders.
- Several NIH Institutes (NIA, NINDS, NIEHS, and NIGMS) collectively manage the research projects that comprise the Geroscience Consortium



NIH Roadmap for Medical Research

Interdisciplinary Research



END

